



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

TRICHLOROETHYLENE (TCE)

Office of Land Quality – Science Services Branch

(317) 232-3215 • (800) 451-6027

www.idem.IN.gov

100 N. Senate Ave., Indianapolis, IN 46204

Description

- Trichloroethylene (TCE) is a nonflammable, colorless liquid chemical used by industries, mostly as a degreaser for metal parts. It has a sweet odor and a sweet burning taste.
- TCE is a manmade chemical that does not occur naturally in the environment.
- TCE can also be found in common household products such as paint removers and adhesives.

Environmental Impacts:

- Though it can easily evaporate, TCE can get into the soil or ground water, mostly as a result of spills and improper disposal. TCE can vaporize from a ground water source and travel through soil pores and rock fissures and along utility pipes to enter buildings. This is referred to as “vapor intrusion.”
- Depending on the oxygen level of the ground water, TCE can break down into different chemicals such as 1, 2- Dichloroethene (1, 2-DCE) and Vinyl Chloride (VC).
- TCE exposure may occur through:
 - Drinking water from a ground water source contaminated with TCE;
 - Breathing air containing TCE vapors; and
 - Skin contact if you handle TCE as a degreaser or paint remover.
- Health impacts depend upon how much, how long, how often and by what way you are exposed.
- Breathing high levels of TCE may cause headaches, lung irritation, dizziness, poor coordination and difficulty concentrating.
- Breathing very high levels of TCE for long periods of time may cause, nerve, kidney and liver damage.
- Drinking high concentrations of TCE for a long time may cause liver and kidney damage, harm the immune system and damage fetal heart development in pregnant women.
- Skin contact for a short period of time may cause rash and skin irritation.
- The United States Environmental Protection Agency (U. S. EPA) classifies TCE as “carcinogenic to humans” as there is evidence that there is a link between exposure and cancer.
- Young children, the elderly and people with chronic health conditions may be more at risk when exposed to TCE.
- Ensuring that TCE is used and disposed of properly protects public health and the environment.

IDEM's Role:

- The Indiana Department of Environmental Management (IDEM) is responsible for protecting human health and the environment while providing for safe industrial, agricultural, commercial, and governmental operations vital to a prosperous economy.
- IDEM's Office of Land Quality regulates the disposal and cleanup of TCE.

Citizen's Role:

There are a number of actions every citizen can take to reduce their contribution or exposure to TCE:

- Use and dispose of household products containing TCE in the manner intended by the manufacturer.
- If you live near an industrial source that uses TCE in their processes and your water is provided from a private well and not by a municipal water supply, you may want to have your water tested.

Additional Information:

- For more information on TCE and vapor intrusion please visit IDEM's websites at www.idem.IN.gov/4141.htm and www.idem.IN.gov/4337.htm. Also see the Agency for Toxic Substances and Disease Registry (ATSDR) website at <http://www.atsdr.cdc.gov/toxfaqs/TF.asp?id=172&tid=30>
- Contact the Indiana State Department of Health, Office of Environmental Epidemiology at (317) 351-7190, if you suspect you have been exposed to TCE.
- For questions and concerns about TCE contamination or environmental cleanup, contact IDEM's Office of Land Quality at (317) 232-3215 or (800) 451-6027, ext. 2-3215.
- To report an accidental release or spill, call IDEM's 24-Hour Spill line at (888) 233-7745.